

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 1-36 were previously cancelled.

Claims 37, 49-50 and 53 are currently being amended. Support for these claim amendments can be found in the originally filed application, at least at pg. 6, ll. 25-26; pg. 11, ll. 29-30; pg. 12, ll. 3-5; and FIG. 9.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claims remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 37-53 are now pending in this application.

Examiner Interview

Applicants thank Examiner Skowronek for a helpful interview on October 21, 2008. In that interview, the claim rejections in U.S. Patent No. 6,544,727 to Hei et al. (Hei et al.) in view of U.S. Patent No. 5,428,993 to Kobashi (Kobashi) and in view of U.S. Patent No. 4,379,452 to DeVries (DeVries) were addressed by the Applicants and the Examiner. Also, the Applicants proposed suggestions regarding claim amendments in view of the cited references, which the Examiner indicated were helpful in distinguishing the cited references. The Applicants have amended claims using similar limitations to those discussed during the interview. As such, Applicants submit that Claims 37-61, as now amended, are allowable.

Rejections Under 35 U.S.C. §112

Claims 37-61 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants respectfully disagree with the rejection of claims 37-61 under 35 U.S.C. §112, second paragraph, as failing to particularly point out and distinctly claim the subject matter, which Applicants regard as the invention. However, to expedite prosecution, the Applicants have amended Claims 37 and 53 to remove a duplicate reference at line 2 to a “fluid distribution module.” Claims 38-52 and 54-63 depend directly or indirectly from respective ones of claims 37 and 53, and therefore include all of the limitations of their respective base claim. As such, since the claims, as now amended, do not include a duplicate reference to “fluid distribution module,” then the 112 second paragraph rejection should, respectfully, be withdrawn.

Claims 49 and 50 are further rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants respectfully disagree with the rejection of claims 49 and 50 under 35 U.S.C. §112, second paragraph, as failing to particularly point out and distinctly claim the subject matter, which Applicants regard as the invention. However, to expedite prosecution, the Applicants have amended claim 49 in a manner similar to a suggested amendment proposed in the Office Action at the bottom of page 3, by replacing “an air module” with “a compressor, an air reservoir, and a filter.” Claim 50 has also been amended to remove reference to the “air module.” As such, since the claims, as now amended, recite limitations clearly found within the specification, then the 112 second paragraph rejection should, respectfully, be withdrawn.

Rejections Under 35 U.S.C. §103

Claims 37-41, 44-49, 51-54 and 56-61 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,544,727 to Hei et al. (Hei et al.) in view of U.S. Patent No. 5,428,993 to Kobashi (Kobashi) and in view of U.S. Patent No. 4,379,452 to DeVries (DeVries).

Applicants submit that rejection of claims 37-41, 44-49, 51-54 and 56-61 is moot in view of amendments to the claims and for further reasons set forth below.

Claims 37 and 53 have each been amended to recite in pertinent part that the fluid distribution module comprises

a plurality of sealed channels in fluid communication with the plurality of ports for transferring fluid from one port to another port of the plurality of ports at least a portion of each of the plurality of sealed channels defined by a flexible membrane;

a plurality of valves, each valve of the plurality of valves associated with a respective port and aligned for displacement of the flexible membrane to control transfer of fluid, the valves adapted to the control module, and individually adapted to either the supply module, the cell module or the processing module, the operation of the valves being regulatable by the control module ...

Turning briefly to each of the cited references, Hei et al. describes methods and devices for the removal of psoralens and psoralen photoproducts from blood products. (Abstract). In particular, Hei et al. describes an exemplary apheresis system having fluid pumps, a centrifuge, fluid lines, and a computerized controller. (Col. 66, ll. 40-65; see also FIG. 49). With respect to a plurality of conduits and a plurality of valves, the Office Action relies on the disclosure of Hei et al. in FIGs. 49-51, 20A-20C, and 37. These figures illustrate fluid bags, as may be used in blood processing. The bags are described as being interconnected with flexible tubing 200. (Col. 97, ll. 16-19). Hei et al. also describes using a flow adapter referring to a device that is capable of controlling the flow of a particular substance. (Col. 13, ll. 16-20).

Kobashi describes an automatic analyzer having a function for detecting a remaining quantity of liquids being used. (Abstract). As described at column 4, lines 50-58, in relation to FIG. 2, a reagent container 12 is connected to the analyzer 10 through a tube 14. The container 12 is put on a weigh sensor 16, and a weight of the container 12 is transmitted to the analyzer for processing.

DeVries describes a compact and disposable monitor and fluid circuit assembly for collecting a desired blood component. (Col. 1, ll. 19-23). The monitor and fluid circuit assembly 11 is described as including a fluid circuit 16 including plurality of flexible plastic tubings that form fluid couplings between various parts of the fluid circuit 16. (Col. 3, ll. 1-8). The tubings are describes as being received through a housing 18 that, having monitor devices mounted therein. (Id., ll. 9-10). The tubing is describes as being series coupled to a high pressure monitoring device 64. (Id., ll. 56-59). In reference to FIG. 5, the monitoring device 64 includes an air filled closed chamber 184 having a flexible diaphragm 135 forming part of one wall of the flow through chamber and an outer wall 136 situation adjacent to an associated pressure transducer. (Col. 7, ll. 51-55).

Neither of claims 37 and 53 as amended herein is obvious in view of the combination of Hei et al., in view of Kobashi, and in view DeVries, because the references considered alone or in combination fail to teach each and every limitation of either of these claims.

Hei et al. describes using standard type tubing as is common in transferring blood products to and from blood storage bags. Such tubing is “tubular,” as the name suggests, generally providing an elongated member having a central lumen, such as a flexible plastic tube. Hei et al. fails to describe or suggest any sealed channels in which a portion of which “sealed channel[] is defined by a flexible membrane,” as recited in Applicants’ amended claims. Hei et al. also fails to describe or suggest any valves “aligned for displacement of the flexible membrane to control transfer of fluid” as also recited in Applicants’ amended claims. As such, Hei et al. neither describes nor suggests either a sealed channel or any flexible membrane.

Kobashi, which was cited with respect to a weight sensor, provides no further detail with respect to the tubing.

DeVries does describe a flexible diaphragm forming part of one wall of the flow through chamber. However, the diaphragm is situated adjacent to a pressure sensor to detect a pressure value related to a fluid within the chamber. DeVries does not describe, teach, or suggest providing a valve aligned for displacement of the flexible membrane to control transfer of fluid, as recited in Applicants' claims as amended herein. Thus, neither Hei et al., nor Kobashi, nor DeVries when considered alone or in combination cure this deficiency.

Applicants submit that the claims as amended herein are not obvious in view of the combination of Hei et al., in view of Kobashi, and in view DeVries, at least because the combination of references fails to teach or suggest each and every limitation of each of the claims. As such, independent claims 37 and 53, and dependent claims 38-41, 44-49, 51-52, 54 and 56-61, which depend directly or indirectly from respective ones of claims 37 and 53, are now in condition for allowance based on their distinction from the combination of cited references.

Claims 42-43 and 50 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hei et al., in view of Kobashi, and in view of DeVries as applied to claims 37-41, 44-49, 51-54, and 56-61 above, and further in view of U.S. Patent No. 5,126,054 to Matkovich (Matkovich).

Claims 42-43 and 50 depend directly or indirectly from amended base claim 37. Accordingly, claims 42-43 and 50 include all of the limitations of claim 37. Applicants submit that rejection of claims 42-43 and 50 is moot in view of amendments to the claims.

Matkovich also describes standard fluid bags and tubing as may be used in blood processing. Accordingly, Matkovich fails to cure the deficiencies at least with respect to providing a valve aligned for displacement of the flexible membrane to control transfer of fluid, as recited in Applicants' claims as amended herein.

Applicants submit that claims 42-43 and 50 are not obvious in view of the combination of Hei et al., in view of Kobashi, in view DeVries, and in further view of Matkovich, at least because the combination of references fails to teach or suggest each and every limitation of each of the claims. As such, dependent claims 42-43 and 50 are now in condition for allowance based on their distinction from the combination of cited references.

Claim 55 is rejected under 35 U.S.C. §103(a) as being unpatentable over Hei et al., in view of Kobashi, as being applied to claims 37-41, 44-49, 51-54, and 55-61 above, further in view of U.S. Patent No. 5,641,637 to Hudak (Hudak).

Applicants submit that rejection of claim 55 is moot in view of amendments to the claims and for further reasons set forth below.

Claim 55 depends directly or indirectly from amended base claim 53. Accordingly, claim 55 includes all of the limitations of claim 53. Applicants submit that rejection of claim 55 is moot in view of amendments to the claims. Hudak also fails to cure the deficiencies at least with respect to providing a valve aligned for displacement of the flexible membrane to control transfer of fluid, as recited in Applicants' claims as amended herein. Applicants submit that claim 55 is not obvious in view of the combination of Hei et al., in view of Kobashi, and in view Hudak, at least because the combination of references fails to teach or suggest each and every limitation of the claim. As such, dependent claims 55 is now in condition for allowance based on its distinction from the combination of cited references.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to

Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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